

REMARKS

Claims 1-29 are pending in the Application and are now presented for examination.

Claims 1, 2, 10, 12, 13, 14, 18, 19, 20, 24, and 29 have been amended. No new matter has been added.

Claims 1, 13 and 19 are independent.

On page 4 of the Office Action, Claim 13 is objected to because of informalities.

Applicants have amended Claim 13 as suggested in the Office Action. Applicants believe that the objection to Claim 13 has been addressed, and respectfully request the withdrawal of this objection.

Rejections under 35 U.S.C. §112

On page 4 of the Office Action, Claims 1-29 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite with regards to “a plurality of a same type of sources.” Applicants have amended independent Claims 1, 13, and 19 to point out and distinctly claim the subject matter of the invention. Specifically, these Claims have been amended to recite the feature of modeling “network element commands, events and run-time system data into a data model.” Applicants believe that these rejections have been addressed and respectfully requests withdrawal of these rejections.

Claims 2-12, 14-18, 20-29 are each dependent either directly or indirectly from one or another of independent Claims 1, 13 and 19, discussed above. These claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed

patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

Rejections under 35 U.S.C. §101

On page 5 of the Office Action, Claims 13-29 are rejected under 35 U.S.C. 101 on the grounds that the claimed invention is directed to non-statutory subject matter. Applicants respectfully traverse. Applicants have amended independent Claims 13 and 19 to recite “a memory” comprising a global repository and “model[ing] network element commands, events and run-time system data into a data model.”

In addition, Applicants remind the Examiner that Claim 13 is directed toward a system and simply a method. To further make this point clear, Claim 13 has been amended to recite “a processor electrically coupled to the memory.” A repository is a tangible receptacle or a place where things are deposited and stored. Also, the commands, events and run-time system data are transformed into a data model that represents the network element, such that the model is accessible by system designers, operators, etc. via an external interface, resulting in a tangible result.

Claim 19 has been amended to recite “a computer program product, tangibly embodied in a computer storage medium.” Applicants believe that Claims 13 and 19, as amended are directed to statutory subject matter, and respectfully request the withdrawal of this rejection.

Claims 14-18 and 20-29 are each dependent directly or indirectly from amended independent Claims 13 and 19 discussed above. These claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed

patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

Rejections under 35 U.S.C. §102(b)

On page 6 of the Office Action, Claims 1-2, 5-7, 9, 11-14, 17-20, 23-26 and 28-29 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Publication Number 2003/0046370 to Courtney (“Courtney”). Applicants respectfully traverse.

Amended Claim 1 recites the features of “modeling network element commands, events and run-time system data into a data model using a *first* modeling language, the data model comprising *first* data; translating the first data represented in the first modeling language to *second* data represented in a second modeling language … automatically generating code to support an external management interface based on the stored *second* data in the global repository, the external management interface communicating with the stored *second* data.” These features are not taught, disclosed, or suggested by Courtney.

The method of Claim 1 models “network element commands, events and run-time system data” into a uniform *data model* representation using a first modeling language. This data model comprises *first* data that is translated to *second* data in a second modeling language. A data model in the present invention and as recited in amended Claim 1 is more than just a configuration file, as it includes commands, events (such as alarms, statistics, counters, etc.) and run-time system data.

For example, the network element gathers network element data at run-time from multiple components or software processes that comprise the network element. This operational

run-time data provides network operators the ability to keep, for instance, a router's statistics and accounting data, as well as information needed to manage the router. The network element, e.g. the router, is managed through "commands, events and run-time system data" to provide, among others, maintenance and billing information. This arrangement is not taught or suggested by Courtney.

Unlike Courtney, the representation of a network element's "commands, events and run-time system data" in a data model provides many advantages, as the stored second data model representation is used to "automatically generate[e]code [for] an external management interface" to access and manage the stored data model. "The external management interface communicates with the stored second data," i.e. the data model. This stored second data model representation of different network elements allows an architecture where the network element's software applications can "communicate with the stored data" model through a single interface that is independent of any external interface (for instance a CLI or XML interface). Different network elements, i.e. routers, are represented by different data models stored in the global repository. Advantageously, modeling a plurality of sources and having a uniform interface to the stored second data models reduces development time as data and access mechanisms can be reused.

In striking contrast, Courtney merely deals with configuring network equipment, given the router's difficult to use "tangled mess of commands and subcommands" that vary from vendor to vendor. ¶[0011]. For example, Cisco's command line interface ("CLI") is a "cumbersome interface [and] is one reason [why] Cisco requires that Cisco-certified engineers work on its routers." ¶[0011]. Courtney shows "providing system administrators a user-friendly, consistent interface." ¶[0013]. As such, Courtney simply converts a router's *commands* from a

native representation into a standard format. Courtney retrieves “the network device’s configuration, in a native format, from the network device … and convert[s] it into a standard-format configuration such as an XML document or a DOM.” ¶[0036]. This standard-format configuration provides system administrators with an easy-to-use … configuration format … That is, instead of being forced to manipulate a difficult CLI-based configuration format … system administrators can use the standard-format configuration to interact with the target network device.” ¶[0016].

However, creating a standard-format configuration containing standard commands is not the same as modeling network elements commands, events and run-time system data. On page 9, the Office Action relies on ¶[0036] of Courtney to show modeling run-time system data. But ¶[0036] merely states that “the DOM generator 160 then retrieves the configuration.” Nothing in Courtney teaches, discloses or suggests gathering “run-time system data,” as recited in amended Claim 1. Claim 1 is patentable over Courtney for at least this reason.

In addition, the Office Action relies on the “XML-CLI converter 200 [that] allows the system administrator 175 to interface with CLI-based network devices” (¶[0040]) to show “automatically generating code to support an external management interface based on the *stored second data* in the global repository, the external management interface communicating with the *stored second data*.” Courtney does not teach an interface that interacts and communicates with a stored data model, because Courtney does not store a data model at all. Courtney says nothing about a data model that models a network element’s commands, events, and run-time system data. Courtney merely creates commands in a standard format to interface with the routers themselves, not with a data model representation of the router.

In fact, nothing in Courtney teaches the concept of a complete data model representation of a network element, where the data model itself is used to automatically generate code for an interface that communicates and interacts with the *stored* data model. Applicants respectfully assert that Courtney does not teach, disclose or suggest “modeling network element commands, events and run-time system data into a data model using a *first* modeling language, the data model comprising *first* data; translating the first data represented in the first modeling language to *second* data represented in a second modeling language … automatically generating code to support an external management interface based on the stored *second* data in the global repository, the external management interface communicating with the stored *second* data,” as recited in amended Claim 1. Applicants respectfully assert that amended Claim 1 is patentable over Courtney, and respectfully requests this rejection be withdrawn.

Independent Claims 13 and 19

Independent Claims 13 and 19 recite features similar to Claim 1. Specifically Claims 13 and 19 recite the features of “model network element commands, events and run-time system data into a data model using a first modeling language, the data model comprising first data; … automatically generate code to support an external management interface code development based on the stored second data in the global repository, the external management interface communicating with the stored second data.” As discussed above with respect to Claim 1, these features are not taught, disclosed or suggested by Courtney. Applicants respectfully request the withdrawal of these rejections.

Claims 2, 5-7, 9, 11-12, 14, 17-18, 20, 23-26 and 28-29 are each dependent either directly or indirectly from one or another of independent Claims 1, 13 and 19, discussed above. These

claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

Rejections under 35 U.S.C. §103(a)

On page 9 of the Office Action, Claims 3, 15 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courtney. These claims are each dependent either directly or indirectly from one or another of independent Claims 1, 13 and 19, discussed above. These claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

On page 10 of the Office Action, Claims 4, 8, 10, 16, 22 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Courtney in view of Applicant Acknowledged Prior Art Techniques. These claims are each dependent directly from one or another of independent Claims 1, 13 and 19, discussed above. These claims recite additional limitations which, in conformity with the features of their corresponding independent claim, are not disclosed or suggested by the art of record. The dependent claims are therefore believed patentable. However, the individual reconsideration of the patentability of each claim on its own merits is respectfully requested.

For all of the above reasons, the claim objections are believed to have been overcome placing Claims 1-29 in condition for allowance, and reconsideration and allowance thereof is respectfully requested.

The Examiner is encouraged to telephone the undersigned to discuss any matter that would expedite allowance of the present application.

The Commissioner is hereby authorized to credit overpayments or charge payment of any additional fees associated with this communication to Deposit Account No. 141315

Respectfully submitted,

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